Maryland Historical Trust

Maryland Inventory of Historic Properties number: WA-II-1117

Name: W-5372/OLD ROXBURY RD OVER BEAVER CR.

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ___X___ Eligibility Not Recommended _____

Criteria: ____A ____B ____C ____D Considerations: ___A ___B ___C ___D ___E ___F ___G __None

Comments: _____

_____

_____

Reviewer, OPS: Anne E. Bruder _____ Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze _____ Date: 3 April 2001

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. WA-II-1117

SHA Bridge No. W-5372 Bridge name Old Roxbury Road over Beaver Creek

LOCATION:
Street/Road name and number [facility carried] Old Roxbury Road

City/town West of Kline Mill and northwest of Benevola Vicinity

County Washington

This bridge projects over: Road ____ Railway ____ Water X ____ Land ____

Ownership: State ____ County X ____ Municipal ____ Other ____

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes ____ No X
National Register-listed district ____ National Register-determined-eligible district ____
Locally-designated district ____ Other ____

Name of district ____

BRIDGE TYPE:
Timber Bridge ____:
Beam Bridge ____ Truss -Covered ____ Trestle ____ Timber-And-Concrete ____

Stone Arch Bridge ____

Metal Truss Bridge ____

Movable Bridge ____:
Swing ____ Bascule Single Leaf ____ Bascule Multiple Leaf ____
Vertical Lift ____ Retractile ____ Pontoon ____

Metal Girder ____:
Rolled Girder ____ Rolled Girder Concrete Encased ____
Plate Girder ____ Plate Girder Concrete Encased ____

Metal Suspension ____

Metal Arch ____

Metal Cantilever ____

Concrete X ____:
Concrete Arch ____ Concrete Slab X Concrete Beam ____ Rigid Frame ____
Other ____ Type Name ____

DESCRIPTION:

Setting: Urban _____ **Small town** ___X___ **Rural** _____

Describe Setting: Bridge No. W-5372 carries Old Roxbury Road over Beaver Creek in Washington County. Old Roxbury Road runs generally east-west, and Beaver Creek flows in a southerly direction under the bridge. The area surrounding the bridge is largely rural in feeling, and a short distance east, at the intersection of Old Roxbury and Alt 40 is the small town of Kline Mill. Another small town, Benevola, is southeast of the bridge.

Describe Superstructure and Substructure:

Built circa 1920, Bridge No. W-5372 is a two span continuous concrete slab bridge with solid parapets. The parapets have six panels and no cap. The substructure is composed of concrete abutments, flared wingwalls, and a pier. The bridge has a bituminous concrete overlay on top of the slab. The structure is posted as a one-lane bridge with a weight restriction of 10 tons. The structure length is 66', the width is 14', and the span length is 33'. It has a 64 degree skew.

According to the most recent bridge inspection report, the concrete slab on the east side of the bridge has a structural crack that runs from parapet to parapet right along the face of the abutment underneath. The northeast wingwall has a very large crack that runs from top to bottom about one foot out from the east abutment. Water is seeping from this crack and the concrete is continuing to spall and deteriorate in this area. The retaining wall at the end of the northeast wingwall and the wingwall itself are heavily scoured. The retaining wall is heavily undermined and is tilting toward the creek approximately 15 degrees. The upstream portion of the pier has spalled near the water line and has extensive cracking and efflorescence extending from this area along the water line underneath the bridge. The stream is misaligned with the bridge and has caused scour problems in the past. There is evidence of scour under the west abutment and the pier, but there are no signs of undermining. The underside of the slab at the base of the northeast wingwall and pier have efflorescence leakage and sound hollow, in these areas, when struck with a hammer. Finally, the inside face of the parapets have numerous scrapes and several spalls indicating that the structure may be too narrow for the traffic currently using it.

Discuss Major Alterations:

Inspection reports for this bridge are available from 1977 to 1993. In 1977 the bridge was described as in a rapidly deteriorating condition, and the report for 1981 states the bridge was "recently restored." Inspection reports do not detail the work completed in 1980. Bridge repair plans, however, indicate the southwest wingwall was removed and replaced. Additional work included: bituminous paving for bridge approaches, a concrete deck overlay, epoxy coating on inside face of parapet, repair of the concrete deck, repairs to substructure and subfoundation concrete. The plans also proposed 24 linear feet of gabions at the northwest wingwall, and there is some indication repairs were made to some or all of the footers. Finally, the approaches were adjusted to meet the top of the new bridge wearing surface.

HISTORY:

WHEN was the bridge built (actual date or date range) circa 1920

This date is: Actual _____ **Estimated** ___X___

Source of date: Plaque ____ **Design plans** _X_ **County bridge files/inspection form** ____

Other (specify) _____

WHY was the bridge built?
Unknown

WHO was the designer?
Unknown

WHO was the builder?
Unknown

WHY was the bridge altered?
Extension of the bridge's life

Was this bridge built as part of an organized bridge-building campaign?
Unknown

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _____ B- Person _____
C- Engineering/architectural character _____

Was the bridge constructed in response to significant events in Maryland or local history?
Reinforced concrete slab bridges are a twentieth century structure type, easily adapted to the need for expedient engineering solutions. Reinforced concrete technology developed rapidly in the early twentieth century with early recognition of the potential for standardized design. The first U.S. attempt to standardize concrete design specifications came in 1903-04 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

Maryland's road and bridge improvement programs mirrored economic cycles. The first road improvement program of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916 -1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war-related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920 to 1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic, with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund [with an equal sum from the counties] the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. Most improvements to local roads waited until the years after World War II.

With a diverse topographical domain encompassing numerous small and large crossings, engineers quickly recognized the need for expedient design and construction. Bridge No. W-5372 is a variation on the standardized concrete slab bridges built throughout Maryland between 1920

to 1940. This closed parapet structure is similar to SHA Standard Detail Sheets from 1919 for concrete slab bridges, but it does not conform exactly to the specifications. Like many variations of concrete slab bridges from that time period, however, it appears to differ from other slabs only its ornamentation and dimensions.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?
Unknown.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?
No. This bridge is not located in an area which may be eligible for historic designation.

Is the bridge a significant example of its type?
No. This bridge is not a significant example of a concrete slab. The structure does not retain the integrity of its original design. In addition, many of the character defining elements of the substructure are in a deteriorated state or have been replaced.

Does the bridge retain integrity of important elements described in Context Addendum?
No. This bridge does not retain the integrity of its original design due to alterations and repairs made in 1980, and it lacks material integrity due to its deteriorated condition.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?
There are no county records which indicate this is a significant example of the work of a manufacturer, designer, or engineer.

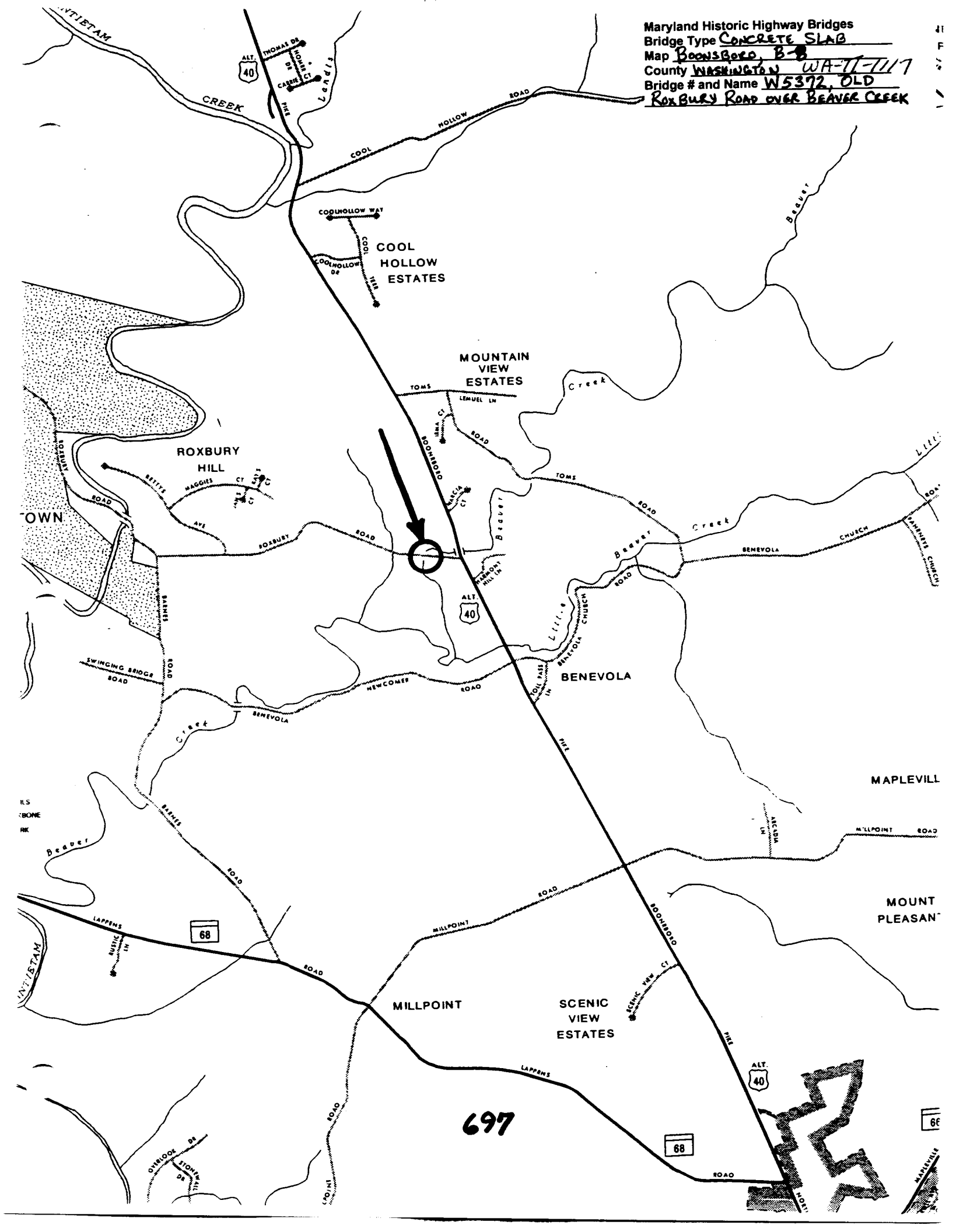
Should the bridge be given further study before an evaluation of its significance is made?
No further evaluation is necessary to determine National Register significance. However, additional research concerning the history of this bridge and its relationship to the surrounding landscape may be useful in providing a more complete picture of the bridge's background.

BIBLIOGRAPHY:

County inspection/bridge files X **SHA inspection/bridge files** _____
Other (list):

SURVEYOR:

Date bridge recorded August 1995
Name of surveyor Adrienne Beaudet Cowden
Organization/Address P.A.C. Spero & Company; 40 West Chesapeake Avenue, Suite 412; Baltimore, Maryland 21204
Phone number 410-296-1635 **FAX number** 410-296-1670


Maryland Historic Highway Bridges
Bridge Type CONCRETE SLAB
Map BOONSBORO, B-8
County WASHINGTON WA-II-III
Bridge # and Name W5372, OLD
ROXBURY ROAD OVER BEAVER CREEK
COOL HOLLOW ESTATES
MOUNTAIN VIEW ESTATES
ROXBURY HILL
BENEVOLA
MILLPOINT
SCENIC VIEW ESTATES
MAPLEVILL
MOUNT PLEASAN
BOONSBORO ROAD
ROXBURY ROAD
BENEVOLA CHURCH ROAD
NEWCOMER ROAD
SWINGING BRIDGE ROAD
LAPPENS ROAD
MILLPOINT ROAD
ALT. 40
68
697

BR # 20W537210 WA-II-1117

OVER BEAVER CREEK

WASHINGTON CO., MD.

CHARLES ZIEGLER

2/23/95

S. H. A.

WEST APPROACH

1 OF 4

BR # 2015537210 WA-II-1117

OVER BEAVER CREEK

WASHINGTON CO, MD.

CHARLES ZIEGLER

2/23/93

S. H. A.

EAST APPROACH

2 OF 4

BR #20W537210 WA-II-1117

OVER BEAVER CREEK

WASHINGTON CO., MD.

CHARLES ZIEGLER

2/23/95

S. H. A.

SOUTH ELEVATION (DOWNSTREAM)

3 OF 4

BR # 20S37210 WA-II-1117

OVER BEAVER CREEK

WASHINGTON CO., MD.

CHARLES ZIEGLER

2/23/95

S. H. A.

NORTH ELEVATION (UPSTREAM)

4 OF 4